Virginia City Hybrid Energy Center
Response to Data Request
Bruce Buckheit, Member, Virginia Air Pollution Control Board

Question (Page No. 21):

Please follow up with the vendor(s) of this technology (perhaps through CIBO or ICAC) to obtain whatever specific information is available about the current state of technical development, commercialization and number of pending orders and incorporate this information for consideration by the Board

Response:

The Lagisza supercritical CFB facility in Poland is currently under construction and planned for start-up in March 2009. This 460 MW single boiler is the first supercritical CFB to be sold by a CFB supplier and is also the largest single boiler sold to date. In addition to being the first supercritical CFB, the facility utilizes a new modularized design that close couples the cyclones to the boiler housing. The contract was signed in December of 2002, Mechanical Completion occurs in July 2008 and Commercial Operation in March 2009. Commissioning of the facility is anticipated to take 8 months. The facility does not have an SNCR or scrubber which allows the use of an additional flue gas heat recovery system which improves total plant efficiency by .8%.

Commercially available technology is defined as technology that can be purchased from a willing seller under commercial terms. Foster Wheeler (FW), which is the boiler maker at the Lagisza plant, has stated that the supercritical design is not commercially available in the US market until they have gained operating experience with the Lagisza facility. If Dominion had insisted on a supercritical design, the terms that FW would not have included any guarantee and therefore would not be "commercially available." Moreover, such an arrangement would have shifted more risk from the vendor to the Virginia ratepayer. Dominion believes this is an unacceptable risk. Such an arrangement would have to be approved by the Virginia State Corporation Commission.

The stated gross plant heat rate (HHV) for Lagisza is 7849 Btu/ kWh which incorporates the flue gas heat recovery system. However, this system would not be allowed in the US because the flue gas heat recovery system is incompatible using the SNCR and polishing scrubbers. Without the flue gas heat recovery system, the comparable gross heat rate would be 7996 Btu/kWh. The VCHEC gross heat rate associated with the guaranteed case is 8990 Btu/ kWh. This represents a heat rate that is only 11% higher than the Lagisza facility on a gross heat rate basis. The use of renewable fuel would likely more than offset any difference in carbon impacts.